Amendments to the Specification

Please insert the following heading on page 1, between the title and line 2:

Background of the Invention

Please insert the following sub-heading on page 1, between the above noted heading and line 2:

Field of the Invention

Please insert the following sub-heading on page 1, between lines 10 and 11:

Description of the Background Art

Please insert the following heading on page 2, between lines 31 and 32:

Summary of the Invention

Please insert the following heading on page 14, between lines 5 and 6:

Brief Description of the Drawings

Please insert the following heading on page 14, between lines 26 and 27:

Detailed Description of the Preferred Embodiments

Please replace the paragraph beginning on page 15, line 28 with the following amended paragraph:

The chambers on each side of the flow through sensor may have electrodes 34, 35 extending from an external terminal 61, 62 through the base wall 63 of the disposable unit and into a configuration facing the inside of its respective chamber. The cartridge is placed in a docking station 66 in a portable apparatus in order to carry out the test. The docking station 66 has a cup shaped housing having a base 70 and a circumambient sidewall 71. In the base 70 there are respective spring loaded electrical connectors 64, 65 for contacting the terminals 61, 62 of the cartridge automatically when the cartridge is received as a push fit into the docking station. There is also a conduit 68 passing through the base wall 70 aligned with the conduit 67 of the cartridge. Conduit 67 at its opening into the upper face of the wall 70 has a seal 69, such as e.g. [[and]] an O-ring for forming a gas tight connection with the lower face of the base wall 63 of the cartridge. A vacuum pump 72 is connected to by a line 73 to the lower end of the conduit 68. In a modification of the apparatus, the vacuum pump 72 can be reversed so as to apply positive gas pressure to the conduit 68. Schematically indicated at 74 are the further conventional components of a Coulter counter including all the electronic circuitry and display equipment needed for the operation of the apparatus. A general perspective view of the cartridge and reader is shown in Fig. 16.

Please replace the paragraph beginning on page 17, line 4 with the following amended paragraph:

The sampling member 78 is inserted into a third cavity [[34]] of the first member 86 for receiving and accommodating a part of the sampling member 78. The sampling member 78 may be displaced between the first and second position along a longitudinal axis of the sampling member 78 that is also substantially perpendicular to a longitudinal axis of the first cavity 82. The sampling member 78 may also be rotatable about a longitudinal axis that is substantially perpendicular to a longitudinal axis of the first cavity 82. In the first position, the first 75 and second 82 capillary tunnels extend along substantially the same longitudinal center axis.

Please replace the paragraph beginning on page 19, line 20 with the following amended paragraph:

Bayer Advia-120: 11.96 x 10^9 leukocytes/L

Test-rig: 11.92 x 10^9 leukocytes/L

Difference in accuracy: (11.96 – [[1.92]] 11.92) /11.96 = 0.33%

Please replace the paragraph beginning on page 24, line 9 with the following amended paragraph:

Fig. 14 shows schematically a preferred embodiment of the cartridge according to the invention. The illustrated cartridge has a first member 104 for sampling blood.

The member 104 is movably positioned in relation to the housing [[100]] between three positions, a first position for blood sampling, a second position to connect the first storage chamber 103 with the first mixing chamber 112, and a third position to connect the second storage chamber 105 with the second mixing chamber 110. The blood is passed through the bore 122 into the first cavity of the member 104 by capillary forces or by applying a vacuum at the end of the sampling channel 111. A liquid blocking valve 116 is arranged after the first sampling member to hinder passage of blood through the channel. After the blood sampling, the sampling member is turned to the second position and the sample is flushed into the first mixing chamber 112 by the liquid in the first storage chamber 103. In the first mixing chamber 112 the sample is diluted 1:200 with the liquid in the first storage chamber 103 and a fraction is blown back into the first cavity of the sampling member 104, which is turned to the third position so that the diluted sample is flushed into the second mixing chamber 110 by the liquid in the second storage chamber 105. In the second mixing chamber 110 the sample is further diluted 1:200 to a total dilution of 1:40.000 with the liquid in the second storage chamber 105. A hemolysing reagent is injected into the first mixing chamber 112 by a piston 115, which breaks a seal 118 between a reagent chamber 119 and the first mixing chamber 112. After hemolysing the blood the 1:200 diluted sample is ready for counting non-hemolysed white blood cells and for measuring hemoglobin by photometry. The white cells are counted by passing them through a first orifice 113 and measuring the response by impedance cell counting over a first electrode pair 117, 120.

A fixed volume is counted by a first volume metering arrangement 107 connected to the first collection chamber 114. A first overflow volume 106 is arranged after the first volume metering arrangement 107. The white blood cells can be differentiated by volume after adding the lysing reagent to the blood. The white cells can be grouped by volume into: Granulocytes, Monocytes, and Lymphocytes. The three groups together yield the total white cell count.

Please replace the paragraph beginning on page 25, line 5 with the following amended paragraph:

In the second mixing chamber 110, red cells and platelets are counted. The red cells and platelets are counted by passing them through a second orifice 109 and measuring the response by impedance cell counting over a second electrode pair 121, 125 ~~106, 121~~. A fixed volume is counted by a second volume metering arrangement 101 connected to the second collection chamber 108. A second overflow volume 102 is placed after the second volume metering arrangement 101.

Please replace the paragraph beginning on page 25, line 32 with the following amended paragraph:

The cartridge further comprises a second sampling member 123 positioned in the housing 100 for sampling a small and precise volume of liquid from the first mixing chamber 112 and having a second cavity 123 for receiving and holding the sampled

liquid, the member 123 being movably positioned in relation to the housing 100 in such a way that, in a first position, the second cavity 123 is in communication with the first mixing chamber 112 for entrance of a diluted sample from the first mixing chamber 112 into the second cavity 123, and, in a second position, the second cavity 123 is in communication with the second mixing chamber 110 so that the diluted sample is flushed into the second mixing chamber 110 by the liquid in the second storage chamber 105. In the second mixing chamber 110 the sample is further diluted 1:200 to a total dilution of 1:40.000 with the liquid in the second storage chamber 105. A hemolysing reagent is injected into the first mixing chamber 112 by a piston [[115]], which breaks a seal [[118]] between a reagent chamber [[119]] and the first mixing chamber 112. The piston, seal and reagent chamber are not shown in Fig. 15. After hemolysing the blood the 1:200 diluted sample is ready for counting non-hemolysed white blood cells and for measuring hemoglobin by photometry. The white cells are counted by passing them through a first orifice 113 and measuring the response by impedance cell counting over a first electrode pair 117, 120. A fixed volume is counted by a first volume metering arrangement 107 connected to the first collection chamber 114. A first overflow volume 106 is arranged after the first volume metering arrangement 107. The white blood cells can be differentiated by volume after adding the lysing reagent to the blood. The white cells can be grouped by volume into: Granulocytes, Monocytes and Lymphocytes. The three groups together yield the total white cell count.

Please replace the paragraph beginning on page 26, line 21 with the following amended paragraph:

In the second mixing chamber 110, red cells and platelets are counted. The red cells and platelets are counted by passing them through a second orifice 109 and measuring the response by impedance cell counting over a second electrode pair 121, 125 ~~106, 121~~. A fixed volume is counted by a second volume metering arrangement 101 connected to the second collection chamber 108. A second overflow volume 102 is placed after the second volume metering arrangement 101.

Please replace the abstract with the following amended abstract:

~~The present invention relates to a~~ A disposable cartridge for characterizing particles suspended in a liquid, especially a self-contained disposable cartridge for single-use analysis, such as for single-use analysis of a small quantity of whole blood. The self-contained disposable cartridge facilitates a straightforward testing procedure, which can be performed by most people without any particular education. Furthermore, the apparatus used to perform the test on the cartridge is simple, maintenance free, and portable.